

Green Industrial Analyses Pilot Program -1992/93




The Green Industrial Analyses and Retrofits initiative was preceded by a pilot program in 1992/93 in which nine industrial companies were offered site analyses to help them reduce their use of energy and water and reduce waste. The analyses identified a total of \$8.6 million in potential annual savings for the companies. The capital investment needed to implement recommended conservation and waste reduction projects totalled \$21 million. The average simple payback for the improvements identified in the analyses was 2.5 years, and in many cases the

paybacks were under two years.

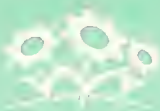
Overall results of the nine analyses are set out in the following table. Three analyses are highlighted in the attached case studies.

CASE STUDY: GLASS PLANT

Owens-Corning Guelph Glass Plant, in Guelph, produces fibreglass yarns and reinforcing mat for the domestic and export markets. The plant has 450 employees. The green industrial analysis identified potential improvements capable of saving the company up to \$2,732,700 a year. 

PILOT PROJECT RESULTS

Company	Annual energy cost savings %	Annual water cost savings %	Annual disposal/ material cost savings %	Major products of company
A	11.0	0.8	78.6	Ground beef, beef cuts
B	13.4	46.8	28.0	Fruit juices
C	7.9	19.0	N/A	Gold
D	20.3	23.2	N/A	Fine paper
E	18.3	64.6	44.3	Paints, adhesives
F	18.8	30.7	100	Glass fibre
G	17.9	N/A	92.5	Phosphate chemicals
H	24.7	34.5	N/A	Beer
I	9.8	N/A	56.9	Auto parts
AVERAGE	18.5 %	25 %	85 %	



Energy savings

The analysis identified six options for saving energy. The total capital cost of the improvements would be \$1,986,000, and would yield annual energy savings estimated at \$964,888. The improvements would have a payback of two years.

Implementing the options for saving energy would also result in reduced air emissions.

Water savings

The analysis identified two options for using water more efficiently at a total capital cost of \$15,500. It is estimated that the improvements would produce annual savings in water costs of \$67,700, or 31 per cent of the current costs. This would provide a payback of under three months.

Implementing the options for saving water would also result in reduced sewer loadings.

Waste reduction

Analyzing the plant's input and output of material revealed that a significant amount of glass fibre becomes solid waste. The analysis identified one option for reducing waste at source that would produce an annual savings in landfill tipping fees of \$1.7 million. The total capital cost would be \$3 million, providing a payback of under two years. It was recommended that the feasibility of the suggested technology be tested using a pilot plant.

The solid waste reclaimed as a result of the recommended improvements would account for a significant portion of the waste deposited each year at the landfill site in Guelph.

For more information, contact:
Ministry of Environment and Energy
Industry Programs Branch
Tel: (416) 327-1446 or (416) 327-1452

CASE STUDY: PAINT AND ADHESIVES PLANT

Halltech Inc. is a manufacturer of polymer emulsions and industrial adhesives and a supplier of natural gums and starches. Its plant in Scarborough employs 57 people. The site analysis identified improvements capable of saving the company up to \$245,000 a year.

Energy savings

Six energy-saving options were identified, with a total capital cost of \$117,000. The improvements would yield total annual energy savings of \$50,000, or 18.3 per cent of current energy costs. This would provide a payback of 2.3 years.

Water savings

The analysis identified 11 options for using water more efficiently, with a total capital cost of \$99,500. Savings in the cost of water would average \$77,500 a year, providing a payback of 1.3 years.

Waste reduction

Analyzing the plant's input and output of materials revealed a loss of raw materials and product equivalent to about 2.6 per cent of total production.

The analysis identified five options for reducing waste at source. The total capital cost would be \$165,000. Estimated savings would be \$117,500 a year, providing a payback of 1.4 years. These savings would be for recovered raw materials and would not include the cost of solid waste disposal and landfill.

The options for reducing waste at source and for saving water would both result in reduced sewer loadings.

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CASE STUDY: BREWERY

Sleeman Brewing and Malting Co. Ltd., of Guelph, operates a small brewery employing about 100 people. The brewery is located in a region of Ontario with a history of water shortages, and any expansion of production by the brewery would strain the regional water supply situation. The site analysis identified potential improvements capable of saving the company up to \$138,400 a year.

Energy savings

The analysis identified 15 energy-saving options, with a total capital cost of \$180,400. It is estimated that the improvements would reduce energy costs by \$72,100 a year, or 25 per cent of current energy costs. This would provide a payback of 2.5 years.

Water savings

The analysis identified three options for using water more efficiently. At a capital cost of \$211,700, the improvements would yield estimated annual savings in water costs of \$66,300, or 35 per cent of current water costs. This would provide a payback of 3.2 years.

Waste reduction

The analysis identified a significant potential for reducing solid waste by using durable, reusable plastic crates for beer bottles instead of cardboard cartons.

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